

090716Z JUL 80

<120> ISOLATED GENE FOR METHYLMALONYL COA EPIMERASE AND USES THEREOF

<140> To be Assigned
<141> Herewith

<150> US 60/161,414
<151> 1999-10-25

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<150> US 60/206,082
<151> 2000-05-18
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<170> FastSEQ for Windows Version 4.0
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<220>
<223> Isolated and recombinant form of the full
        epimerase gene sequence
```

```
<400> 1
atg agt aat gag gat ctt ttc atc tgt atc gat cac gtg gca tat gcg      48
Met Ser Asn Glu Asp Leu Phe Ile Cys Ile Asp His Val Ala Tyr Ala
      1              5              10              15
```

tgc ccc gac gcc gac gag gct tcc aag tac tac cag gag acc ttc ggc 96
Cys Pro Asp Ala Asp Glu Ala Ser Lys Tyr Tyr Gln Glu Thr Phe Gly
20 25 30

tg	cat	gag	ctc	cac	cgc	gag	gag	aac	ccg	gag	cag	gga	gtc	gtc	gag	144
Trp	His	Glu	Leu	His	Arg	Glu	Glu	Asn	Pro	Glu	Gln	Gly	Val	Val	Glu	
		35					40					45				

atc atg atg gcc ccg gct gcg aag ctg acc gag cac atg acc cag gtt 192
 Ile Met Met Ala Pro Ala Ala Lys Leu Thr Glu His Met Thr Gln Val
 50 55 60
 cag gtc atg gcc ccg ctc aac gac gag tcg acc gtt gcc aag tgg ctt 240
 Gln Val Met Ala Pro Leu Asn Asp Glu Ser Thr Val Ala Lys Trp Leu
 65 70 75 80
 gcc aag cac aat ggt cgc gcc gga ctg cac cac atg gca tgg cgt gtc 288
 Ala Lys His Asn Gly Arg Ala Gly Leu His His Met Ala Trp Arg Val
 85 90 95
 gat gac atc gac gcc gtc agc gcc acc ctg cgc gag cgc ggc gtg cag 336
 Asp Asp Ile Asp Ala Val Ser Ala Thr Leu Arg Glu Arg Gly Val Gln
 100 105 110
 ctg ctg tat gac gag ccc aag ctc ggc acc ggc ggc aac cgc atc aac 384
 Leu Leu Tyr Asp Glu Pro Lys Leu Gly Thr Gly Gly Asn Arg Ile Asn
 115 120 125
 ttc atg cat ccc aag tcg ggc aag ggc gtg ctc atc gag ctc acc cag 432
 Phe Met His Pro Lys Ser Gly Lys Gly Val Leu Ile Glu Leu Thr Gln
 130 135 140
 tac ccg aag aac tga 447
 Tyr Pro Lys Asn
 145

<210> 2
 <211> 148
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Deduced amino acid sequence of the epimerase gene
 sequence

<400> 2
 Met Ser Asn Glu Asp Leu Phe Ile Cys Ile Asp His Val Ala Tyr Ala
 1 5 10 15
 Cys Pro Asp Ala Asp Glu Ala Ser Lys Tyr Tyr Gln Glu Thr Phe Gly
 20 25 30
 Trp His Glu Leu His Arg Glu Glu Asn Pro Glu Gln Gly Val Val Glu
 35 40 45
 Ile Met Met Ala Pro Ala Ala Lys Leu Thr Glu His Met Thr Gln Val
 50 55 60
 Gln Val Met Ala Pro Leu Asn Asp Glu Ser Thr Val Ala Lys Trp Leu
 65 70 75 80
 Ala Lys His Asn Gly Arg Ala Gly Leu His His Met Ala Trp Arg Val
 85 90 95
 Asp Asp Ile Asp Ala Val Ser Ala Thr Leu Arg Glu Arg Gly Val Gln
 100 105 110
 Leu Leu Tyr Asp Glu Pro Lys Leu Gly Thr Gly Gly Asn Arg Ile Asn
 115 120 125
 Phe Met His Pro Lys Ser Gly Lys Gly Val Leu Ile Glu Leu Thr Gln

130
Tyr Pro Lys Asn
145

135

140

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